AMENDMENTS TO THE SPECIFICATION

IN THE SPECIFICATION:

I. *Please replace the paragraph [0051] beginning on page 13, line 20 with the following rewritten paragraph.*

[0051] $$\text{var}(x)(n))=E[(x(n) - \text{mean}(x(n)))^2]$$
$$= E[u(n)^2+2u(n)s(n)+s(n)^2]$$
$$=E[u(n)^2]+E[s(n)^2]+E[s(n)^2]$$
$$=\text{var}(u(n))+\text{var}(s(n)), \quad (1)$$

where var stands for variance. Thus, the variance of the stationary discrete-time stochastic process is represented by the sum of the variance of the random variable and the deterministic process.

II. *Please replace the paragraph [0073] beginning on page 20, line 1 with the following rewritten paragraph.*

[0073] For the low and very high sub-dynamic ranges, a one-piece linear curve-fitting algorithm is applied. The FPN estimation algorithm is:

$$\text{var}(x)(n))=E[(x(n) - \text{mean}(x(n)))^2]$$
$$= E[u(n)^2+2u(n)s(n)+s(n)^2]$$
$$=E[u(n)^2]+E[s(n)^2]+E[s(n)^2]$$
$$=\text{var}(u(n))+\text{var}(s(n)), \quad (6)$$

This relationship discloses a point-by-point multiplication of the current frame times matrix A and then adds matrix B. This point-by-point multiplication by multiplying every entry in matrix A with the corresponding entry in the current frame. The matrices A and B are calculating using a least-square method based on data from lab measurements for the temperature ranges and integration times R. The corrected image frame, or CIM 118, is obtained by subtracting the estimated FPN from the current raw image frame, or DIM 114. This relationship is shown as:

$$\text{std(FPN(n))}= \sqrt{\text{var}(SFN(n)) - \text{var}(TN(n))} = \sqrt{std(SFN(n))^2 - std(TN(n))^2} \quad (7)$$